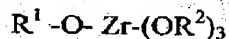


Amendments to the Specification

Please replace the paragraph starting at page 8, line 22, with the following paragraph:

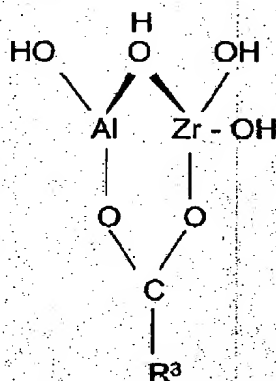
Suitable organofunctional coupling agents include polymerizable groups, including, but not necessarily limited to photopolymerizable groups such as vinyl, acryl, epoxy, or methacryl groups. Examples include, but are not necessarily limited to mono-, di-, and tri-functional silanes, isocyanates, zirconates, aluminozirconates, zirconyl methacrylate, titanates, and phosphonates. Preferred organofunctional groups, which increase the hydrophobicity of the clusters and also maximize the mechanical strength of the resulting composite are hydrolyzable zirconates having the following general structure:



wherein R^1 is selected from the group consisting of hydrolyzable alkyl groups having 1 or more carbon atoms and hydrolysable alkenyl groups having 1 or more carbon atoms, said alkyl groups being effectively eliminatable from the system as free molecules either by volatilization or by isolated copolymerization within the organic matrix resin, and R^2 is selected from the group consisting of copolymerizable alkenyl substituents containing 2 or more carbon atoms. R^1 generally may be eliminated by volatilization if the number of carbon atoms is less than 9. Preferred organofunctional groups are neopentyl (diallyl) oxy trimethacryl zirconates and neopentyl (diallyl) oxy triacryl zirconates (described in U.S. Patent No. 4,623,738, incorporated herein by reference).

Please replace the paragraph starting at page 9, line 16, with the following paragraph:

Aluminozirconates having the following general structure also are preferred as organofunctional groups for zirconia clusters:



wherein R³ is selected from the group consisting of copolymerizable alkenyl groups having 2 or more carbon atoms and carboxyfunctional substituents containing 1 or more carbon atoms, respectively. Preferred aluminozirconates are methacryloxy aluminozirconates (described in U.S. Patent Nos. 4,539,049 and 4,539,048, both of which are incorporated herein by reference).